| | | | |
|---|---|---|---|
| **Item ID:** | D4003-11 | Accept  **\*N9000401OO\*** | Setup  Start  **\*NS1\*** |
| **Revision ID:** | | | Stop  **\*NS2\*** |
| **Item Name:** | Vent Pipe - Tank | | |

| | | | | |
|---|---|---|---|---|
| **Start Date:** | 4/18/2013 | **Start Qty:** 6.00 | **\*6\*** | **Cust Item ID:** |
| **Required Date:** 4/25/2013 | | **Req'd Qty:** 6.00 | **\*6\*** | **Customer:** |
| **Reference:** | | | | |

| | | | Run Start **\*NR1\*** |
|---|---|---|---|
| **Approvals:** | **Process Plan:** ~MMC~  **Date:** 13-4-8 | **Tooling:** _____ **Date:** _____ | |
| | **QC:** _____ **Date:** _____ | **SPC (Y/N):** _____ **Date:** _____ | Stop **\*NR2\*** |

| Sequence ID/ Work Center ID | Operation Description | Set Up/ Run Hours | Tool ID | Tool # | Plan Code | Accept Qty | Reject Qty | Reject Number | Insp. Stamp |
|---|---|---|---|---|---|---|---|---|---|
| **Draw Nbr** | **Revision Nbr** | | | | | | | | |
| D4003 | A | | | | | | | | |
| 100 **\*100\*** Small Fab  Small Fab | Memo  1- Cut tube xxx" long  2- Bend as per dwg | 0.00  0.00 | | | | 6 | 0 | | FF 13-04-19 |
| 110 **\*110\*** QC  Quality Control | QC5- Inspect part completeness to step on W/O  Memo | 0.00  0.00  13 4 19 | DAS 27 | | | 6 | | | |
| 150 **\*150\*** HandFinish  Hand Finishing | Chemical Conversion Coat per QSI005 4.1  Memo | 0.00  0.00 | | | | 6 | 13-4-30 | | |

NCR:   Yes  /  No

# WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed:        Date:

| Work Order: _____ | | |
| --- | --- | --- |
| Part No. _____ | | |
| NCR No. _____ | | |

## DISPOSITION

- Rework ☐
- Scrap ☐
- Use-as-is ☐
- Work Order Update ☐

## AGAINST DEPARTMENT/PROCESS

| | | |
| --- | --- | --- |
| Skid-tube ☐ | Crosstube ☐ | Water Jet ☐ | Engineering ☐ |
| Machining ☐ | Small Fab ☐ | Prod. Eng. Coor. ☐ | Quality ☐ |
| Thermoforming ☐ | Finishing ☐ | Rec/Store/Packaging ☐ | Other ☐ |
| Large Fab ☐ | Composite ☐ | Supplier ☐ | |

| Root Cause | Date | Step | Qty | Description of work order update or Non-conformance | Initial Chief Eng | Action Description | Sign & Date | Verification | QC Inspector |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Doc/Data ☐ | | | | | | | | | |
| Equip/Tooling ☐ | | | | | | | | | |
| Operator ☐ | | | | | | | | | |
| Material ☐ | | | | | | | | | |
| Setup ☐ | | | | | | | | | |
| Other ☐ | | | | | | | | | |
| Process ☐ | | | | | | | | | |
| Supplier ☐ | | | | | | | | | |
| Training ☐ | | | | | | | | | |
| Unapproved ☐ | | | | | | | | | |

## FAULT CATEGORY

**Landing Gear**

- ☐ Bending
- ☐ Centre Not Concentric to O/S
- ☐ Cracks
- ☐ Crushed/Crimped.
- ☐ Cuffs
- ☐ Heat Treat
- ☐ Inspection Strip in Tube
- ☐ Ripples in Bend
- ☐ Torque Waves in Extrusion
- ☐ Turning Sequence
- ☐ Wave/Twist in Tube

**General**

- ☐ Bend
- ☐ BOM/Route
- ☐ Broken/Damaged
- ☐ Burrs
- ☐ Contamination
- ☐ Countersink
- ☐ Cut Too Short
- ☐ Drill Holes
- ☐ Drawing
- ☐ Finish
- ☐ Folio

- ☐ Grain
- ☐ Hardware
- ☐ Inspection Incomplete
- ☐ Instructions Incomplete/Unclear
- ☐ Maintenance
- ☐ Mislabeled
- ☐ Misread
- ☐ Offset
- ☐ Out of Calibration
- ☐ Out of Sequence
- ☐ Outside Dimensions

- ☐ Ovalized
- ☐ Over/Under tolerance
- ☐ Part Incorrect
- ☐ Part Lost/Missing
- ☐ Part Moved
- ☐ Positioned Wrong
- ☐ Power Loss/Surge

- ☐ Pressure/Forced
- ☐ Temperature/Cure
- ☐ Weld
- ☐ Wrong Stock Pulled
- ☐ Other

_____

_____

_____

| | | |
|---|---|---|
| **Item ID:** | D4003-11 | Accept |
| **Revision ID:** | | |
| **Item Name:** | Vent Pipe - Tank | |

**\*N900040100\***   Setup  Start  **\*NS1\***

Stop  **\*NS2\***

| | | | |
|---|---|---|---|
| **Start Date:** | 4/18/2013 | **Start Qty:** 6.00 | \*6\* |
| **Required Date:** 4/25/2013 | | **Req'd Qty:** 6.00 | \*6\* |
| **Reference:** | | | |

**Cust Item ID:**

**Customer:**

**Approvals:**   Process Plan: _____  Date: _____  Tooling: _____  Date: _____

QC: _____  Date: _____  SPC (Y/N): _____  Date: _____

Run  Start  **\*NR1\***

Stop  **\*NR2\***

| Sequence ID/ Work Center ID | Operation Description | Set Up/ Run Hours | Tool ID | Tool # | Plan Code | Accept Qty | Reject Qty | Reject Number | Insp. Stamp |
|---|---|---|---|---|---|---|---|---|---|
| 160 **\*160\*** QC Quality Control | QC3- Inspect Part Finish | 0.00 | | | | 6 | | | |
| | Memo | 0.00 | | | | | | | |

13.4.30

| Sequence ID/ Work Center ID | Operation Description | Set Up/ Run Hours | Tool ID | Tool # | Plan Code | Accept Qty | Reject Qty | Reject Number | Insp. Stamp |
|---|---|---|---|---|---|---|---|---|---|
| 170 **\*170\*** Packaging Packaging | Identify as per dwg & Stock  Location: Stayed 0.00 | | | | | 6x | | | 13-5-7 |
| | Memo | 0.00 | | | | | | | |

| Sequence ID/ Work Center ID | Operation Description | Set Up/ Run Hours | Tool ID | Tool # | Plan Code | Accept Qty | Reject Qty | Reject Number | Insp. Stamp |
|---|---|---|---|---|---|---|---|---|---|
| 180 **\*180\*** QC Quality Control | QC21- Final Inspection - Work Order Release | 0.00 | | | | | | | 13/5/8 |
| | Memo | 0.00 | | | | | | | |

13-05-7

# WORK ORDER NON-CONFORMANCE / UPDATE

NCR:    Yes  /  No

QA Closed:        Date:

| Work Order: _____ | | |
|---|---|---|
| Part No. _____ | | |
| NCR No. _____ | | |

## DISPOSITION

| Rework ☐ |
|---|
| Scrap ☐ |
| Use-as-is ☐ |
| Work Order Update ☐ |

## AGAINST DEPARTMENT/PROCESS

| Skid-tube ☐ | Crosstube ☐ | Water Jet ☐ | Engineering ☐ |
|---|---|---|---|
| Machining ☐ | Small Fab ☐ | Prod. Eng. Coor. ☐ | Quality ☐ |
| Thermoforming ☐ | Finishing ☐ | Rec/Store/Packaging ☐ | Other ☐ |
| Large Fab ☐ | Composite ☐ | Supplier ☐ | |

| Root Cause | Date | Step | Qty | Description of work order update or Non-conformance | Initial Chief Eng | Action Description | Sign & Date | Verification | QC Inspector |
|---|---|---|---|---|---|---|---|---|---|
| Doc/Data ☐ | | | | | | | | | |
| Equip/Tooling ☐ | | | | | | | | | |
| Operator ☐ | | | | | | | | | |
| Material ☐ | | | | | | | | | |
| Setup ☐ | | | | | | | | | |
| Other ☐ | | | | | | | | | |
| Process ☐ | | | | | | | | | |
| Supplier ☐ | | | | | | | | | |
| Training ☐ | | | | | | | | | |
| Unapproved ☐ | | | | | | | | | |

## FAULT CATEGORY

| Landing Gear | General | | | |
|---|---|---|---|---|
| ☐ Bending | ☐ Bend | ☐ Grain | ☐ Ovalized | ☐ Pressure/Forced |
| ☐ Centre Not Concentric to O/S | ☐ BOM/Route | ☐ Hardware | ☐ Over/Under tolerance | ☐ Temperature/Cure |
| ☐ Cracks | ☐ Broken/Damaged | ☐ Inspection Incomplete | ☐ Part Incorrect | ☐ Weld |
| ☐ Crushed/Crimped. | ☐ Burrs | ☐ Instructions Incomplete/Unclear | ☐ Part Lost/Missing | ☐ Wrong Stock Pulled |
| ☐ Cuffs | ☐ Contamination | ☐ Maintenance | ☐ Part Moved | |
| ☐ Heat Treat | ☐ Countersink | ☐ Mislabeled | ☐ Positioned Wrong | |
| ☐ Inspection Strip in Tube | ☐ Cut Too Short | ☐ Misread | ☐ Power Loss/Surge | ☐ Other |
| ☐ Ripples in Bend | ☐ Drill Holes | ☐ Offset | | |
| ☐ Torque Waves in Extrusion | ☐ Drawing | ☐ Out of Calibration | _____ | |
| ☐ Turning Sequence | ☐ Finish | ☐ Out of Sequence | _____ | |
| ☐ Wave/Twist in Tube | ☐ Folio | ☐ Outside Dimensions | _____ | |

# Picklist Print

*Thursday, April 18, 2013 10:21:37 AM*

| Work Order ID: | 100134 | | |
|---|---|---|---|
| Parent Item: | D4003-11 | Start Date: 4/18/2013 | Required Date: 4/25/2013 |
| Parent Item Name: | Vent Pipe - Tank | Start Qty: 6.00 | Required Qty: 6.00 |
| Comments: | IPP rev A 10.01.12 new issue prelim EC verified by:DD | | |

| Component Item ID/ Item Name | Replacement Item ID | Mfg/ Purch | Bin Item | Primary Location | Last Location | Route Seq ID | Unit of Measure | Qty on Hand | Qty per Kit | Total Qty | Qty Issued | Date Issued | Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| M6061T6T0.500W.035 6061-T6 RD Tube .500 x.035W | | Purchased | No | | | 100 | f | 208.3500 | 1.97 | 11.82 | | | |

FF 13-04-19

| Location | Loc Qty | Loc Code |
|---|---|---|
| MAT014 | 208.35 | |
| 121848 | 170 | |
| 4692 | 38.35 | |

11.82

NCR:    Yes  /  No

# WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

| Work Order: _____ | DISPOSITION | | AGAINST DEPARTMENT/PROCESS | | | | |
|---|---|---|---|---|---|---|---|
| Part No. _____ | Rework ☐ | | Skid-tube ☐ | Crosstube ☐ | Water Jet ☐ | Engineering ☐ | |
| | Scrap ☐ | | Machining ☐ | Small Fab ☐ | Prod. Eng. Coor. ☐ | Quality ☐ | |
| | Use-as-is ☐ | | Thermoforming ☐ | Finishing ☐ | Rec/Store/Packaging ☐ | Other ☐ | |
| NCR No. _____ | Work Order Update ☐ | | Large Fab ☐ | Composite ☐ | Supplier ☐ | | |

| Root Cause | | Date | Step | Qty | Description of work order update or Non-conformance | Initial Chief Eng | Action Description | Sign & Date | Verification | QC Inspector |
|---|---|---|---|---|---|---|---|---|---|---|
| Doc/Data | ☐ | | | | | | | | | |
| Equip/Tooling | ☐ | | | | | | | | | |
| Operator | ☐ | | | | | | | | | |
| Material | ☐ | | | | | | | | | |
| Setup | ☐ | | | | | | | | | |
| Other | ☐ | | | | | | | | | |
| Process | ☐ | | | | | | | | | |
| Supplier | ☐ | | | | | | | | | |
| Training | ☐ | | | | | | | | | |
| Unapproved | ☐ | | | | | | | | | |

## FAULT CATEGORY

| Landing Gear | General | | | |
|---|---|---|---|---|
| ☐ Bending | ☐ Bend | ☐ Grain | ☐ Ovalized | ☐ Pressure/Forced |
| ☐ Centre Not Concentric to O/S | ☐ BOM/Route | ☐ Hardware | ☐ Over/Under tolerance | ☐ Temperature/Cure |
| ☐ Cracks | ☐ Broken/Damaged | ☐ Inspection Incomplete | ☐ Part Incorrect | ☐ Weld |
| ☐ Crushed/Crimped. | ☐ Burrs | ☐ Instructions Incomplete/Unclear | ☐ Part Lost/Missing | ☐ Wrong Stock Pulled |
| ☐ Cuffs | ☐ Contamination | ☐ Maintenance | ☐ Part Moved | |
| ☐ Heat Treat | ☐ Countersink | ☐ Mislabeled | ☐ Positioned Wrong | |
| ☐ Inspection Strip in Tube | ☐ Cut Too Short | ☐ Misread | ☐ Power Loss/Surge | ☐ Other |
| ☐ Ripples in Bend | ☐ Drill Holes | ☐ Offset | | |
| ☐ Torque Waves in Extrusion | ☐ Drawing | ☐ Out of Calibration | _____ | |
| ☐ Turning Sequence | ☐ Finish | ☐ Out of Sequence | _____ | |
| ☐ Wave/Twist in Tube | ☐ Folio | ☐ Outside Dimensions | _____ | |

| DART AEROSPACE PART NUMBER | JOHN CAMERON AVIATION PART NUMBER |
|---|---|
| D4003-11 | JCA-M47-2-21 |

100134



90°±1°   1.65

135°

9.18

8.66
REF

6.30

Ø0.50
NOM

0.035
REF

100°±1°

R1.50
TYP

9.37

15.35
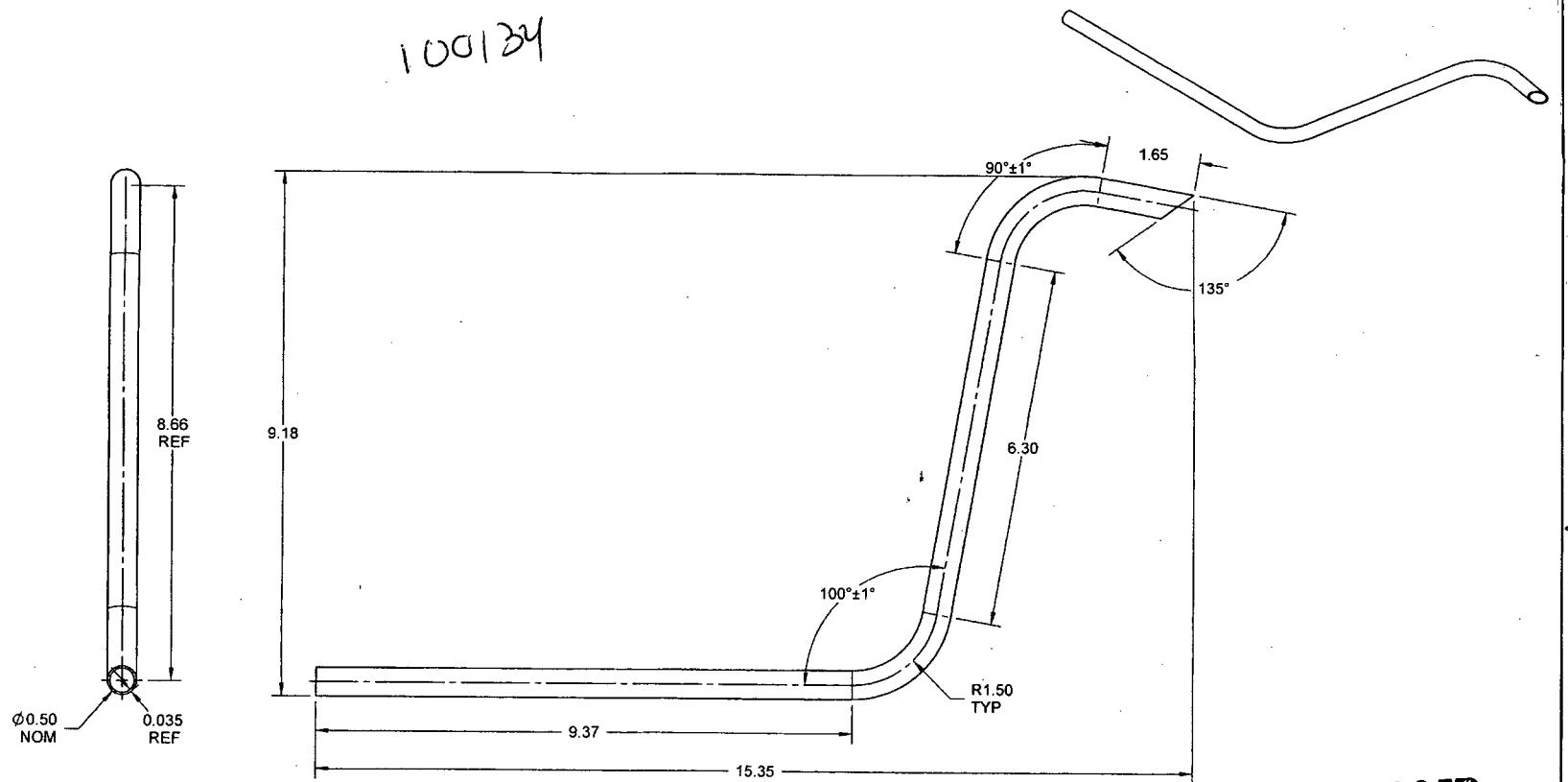
**D4003-11 VENT PIPE - TANK**

RELEASED
2010 -05- 05

NOTES:
1) MATERIAL: 6061-T6 OR 6061-T62 ALUMINUM TUBING, Ø0.500 X 0.035 WALL THICKNESS
   PER WW-T-700/6 OR AMS 4080 OR AMS 4082 OR QQ-A-200/8 OR QQ-A-225/8
   REF DART SPEC M6061T60.500W.035
2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
4) UNITS: INCHES UNLESS OTHERWISE NOTED
5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
6) IDENTIFICATION: IDENTIFY WITH DART P/N "D4003-11" AND B/N USING FINE POINT PERMANENT INK MARKER
7) WEIGHT: 0.11 lbs

| DESIGN | | **DART AEROSPACE LTD** | |
|---|---|---|---|
| DRAWN | | HAWKESBURY, ONTARIO, CANADA | |
| CHECKED | | DRAWING NO. | REV. A |
| MFG. APPR. | | D4003 | |
| APPROVED | | | SHEET 8 OF 9 |
| | | TITLE | SCALE |
| DE APPR. | | LINE | NTS |
| DATE | 10.02.05 | COPYRIGHT © 2010 BY DART AEROSPACE LTD | |

NCR:     Yes  /  No

# WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

| Work Order: _____ | DISPOSITION | AGAINST DEPARTMENT/PROCESS |
|---|---|---|

**Work Order:** _____

**Part No.** _____

**NCR No.** _____

### DISPOSITION

- Rework ☐
- Scrap ☐
- Use-as-is ☐
- Work Order Update ☐

### AGAINST DEPARTMENT/PROCESS

- Skid-tube ☐
- Machining ☐
- Thermoforming ☐
- Large Fab ☐
- Crosstube ☐
- Small Fab ☐
- Finishing ☐
- Composite ☐
- Water Jet ☐
- Prod. Eng. Coor. ☐
- Rec/Store/Packaging ☐
- Supplier ☐
- Engineering ☐
- Quality ☐
- Other ☐
- ☐

| Root Cause | Date | Step | Qty | Description of work order update or Non-conformance | Initial Chief Eng | Action Description | Sign & Date | Verification | QC Inspector |
|---|---|---|---|---|---|---|---|---|---|
| Doc/Data ☐ | | | | | | | | | |
| Equip/Tooling ☐ | | | | | | | | | |
| Operator ☐ | | | | | | | | | |
| Material ☐ | | | | | | | | | |
| Setup ☐ | | | | | | | | | |
| Other ☐ | | | | | | | | | |
| Process ☐ | | | | | | | | | |
| Supplier ☐ | | | | | | | | | |
| Training ☐ | | | | | | | | | |
| Unapproved | | | | | | | | | |

## FAULT CATEGORY

**Landing Gear**

- ☐ Bending
- ☐ Centre Not Concentric to O/S
- ☐ Cracks
- ☐ Crushed/Crimped
- ☐ Cuffs
- ☐ Heat Treat
- ☐ Inspection Strip in Tube
- ☐ Ripples in Bend
- ☐ Torque Waves in Extrusion
- ☐ Turning Sequence
- ☐ Wave/Twist in Tube

**General**

- ☐ Bend
- ☐ BOM/Route
- ☐ Broken/Damaged
- ☐ Burrs
- ☐ Contamination
- ☐ Countersink
- ☐ Cut Too Short
- ☐ Drill Holes
- ☐ Drawing
- ☐ Finish
- ☐ Folio

- ☐ Grain
- ☐ Hardware
- ☐ Inspection Incomplete
- ☐ Instructions Incomplete/Unclear
- ☐ Maintenance
- ☐ Mislabeled
- ☐ Misread
- ☐ Offset
- ☐ Out of Calibration
- ☐ Out of Sequence
- ☐ Outside Dimensions

- ☐ Ovalized
- ☐ Over/Under tolerance
- ☐ Part Incorrect
- ☐ Part Lost/Missing
- ☐ Part Moved
- ☐ Positioned Wrong
- ☐ Power Loss/Surge

- ☐ Pressure/Forced
- ☐ Temperature/Cure
- ☐ Weld
- ☐ Wrong Stock Pulled

- ☐ Other

_____

_____

_____